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Land and Freshwater Mollusks of Caicos, Turks, Ragged Islands and Islands on the Cay Sal Bank, Bahamas

By WILLIAM J. CLENCH

The Caicos, Turks, Ragged Islands and the islands on the Cay Sal Bank are all miniature archipelagos. All of these island groups, other than the Ragged Islands, are on small banks with deep water between them and other island groups. The Ragged Islands are remnants of a once much larger island, an island as large as the present Great Bahama Bank. The Ragged Islands are located on the southeast portion of this large bank and only shallow water separates them from the Exuma chain of islands and Long Island to the north and northeast.

HISTORICAL

TURKS AND CAICOS ISLANDS

The first species to be described from these islands was *Hemitrochus gallopavonis* Pfeiffer in 1842. Pfeiffer received this species from the Paris Museum and gave, as its type locality, St. Croix. This was in error as this species does not occur outside of the Bahamas other than Mona Island where it probably has been introduced by commerce.

In 1858, Justus Hjalmarson, a Swedish naturalist, made a three months trip to Hispaniola. Upon his return to Europe he made a trip to Grand Turk Island. All of the new species he collected were described by Pfeiffer. About 1866, Daniel Sargent, then American Vice-consul at Matthew Town, Great

Plate 40

TURKS ISLANDS

- | | |
|--------------|--------------|
| 1 Grand Turk | 4 Cotton Cay |
| 2 Long Cay | 5 East Cay |
| 3 Salt Cay | 6 Sand Cay |

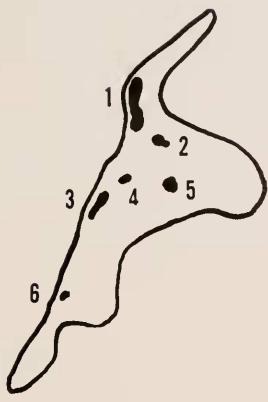
CAICOS ISLANDS

- | | |
|------------------|-------------------|
| 1 West Caicos | 7 North Caicos |
| 2 Providenciales | 8 Grand Caicos |
| 3 Pine Cay | 9 East Caicos |
| 4 Water Cay | 10 South Caicos |
| 5 Stubbs Cay | 11 Ambergris Cays |
| 6 Parrot Cay | |

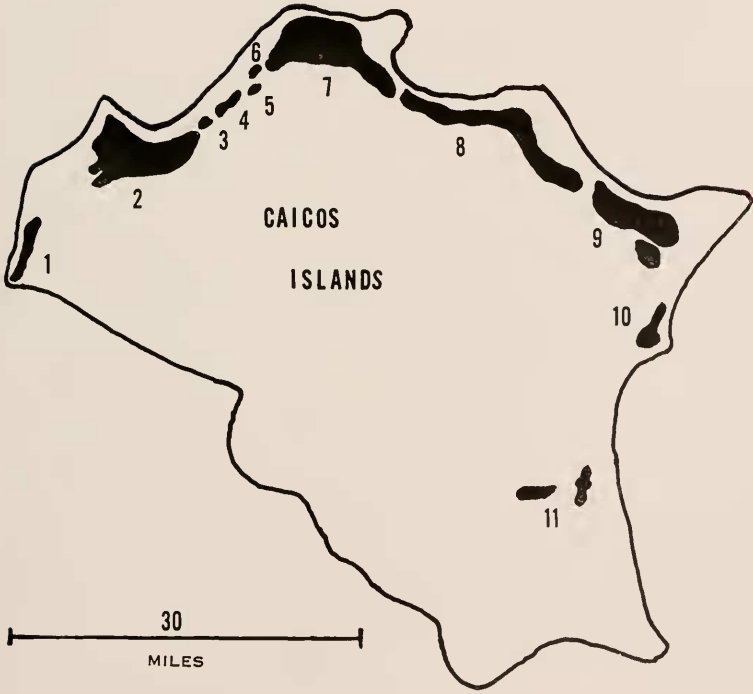
The solid line indicates the margin of the bank.

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TURKS
ISLANDS



CAICOS
ISLANDS

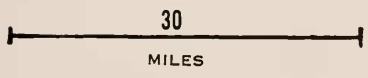


Plate 40

Inagua, paid a visit to the Turks Islands. The material he collected was sent to Thomas Bland of New York and later Bland sent a few specimens to the Academy of Natural Sciences in Philadelphia. All of Bland's material went to Amherst College when they purchased his collection about 1870. In 1929, the Amherst collection was obtained for the Museum of Comparative Zoology in exchange for fossil vertebrate material. A *Hemitrochus* and a few *Cerion* were described by Pilsbry from the specimens collected by Sargent. The few names introduced by Weinland from the Turks Islands were based probably on specimens collected by Sargent and sent to Weinland by T. Bland.

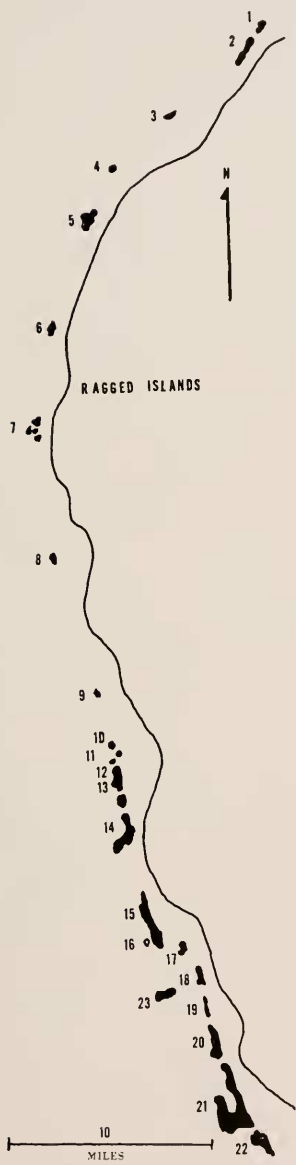
Little, if any, collecting was attempted in these islands from the time of Daniel Sargent until 1930. During the summer of 1930 Paul Bartsch of the United States National Museum made an extended trip to most of the southern Bahamas with a chartered vessel, the "Island Home," a small vessel of 33 tons. Bartsch and his staff of four assistants left Miami, Florida on June 9 for Key West and then proceeded to the islands on the Cay Sal Bank. From here they crossed the lower portion of the Great Bahama Bank to the Ragged Islands. Following south they investigated most of the cays in this group from the Jamaica Cays to Great Ragged Island. From these islands they sailed east to the Crooked Island group, West Plana Cay and to Mariguana Island. Still easterly, they sailed to the Caicos and Turks Islands and then southwest to Little and Great Inagua Islands. On August 10, 1930 they left for Guantánamo, Cuba.

In 1936, James C. Greenway of the Museum of Comparative Zoology and his brother Gilbert made a trip by seaplane to both Turks and Caicos Islands. Bird collecting was their main object but many land mollusks were also collected. C. B. Lewis and G. R. Proctor of the Institute of Jamaica made a short visit to the Turks and Caicos Islands in 1953. Many lots of land shells were collected and these were sent to me for determination.

THE RAGGED ISLANDS

The Ragged Islands form a curvilinear series of cays on the southeast corner of the Great Bahama Bank. Their eastern

RAGGED ISLANDS



- 1 Little Water Cay
- 2 Water Cay
- 3 Lanzadera Cay
- 4 Torzon Cay
- 5 Flamingo Cay
- 6 Man of War Cay
- 7 Jamaica Cay
- 8 Seal Cay
- 9 North Cay
- 10 South Cay
- 11 Frog Cay
- 12 Knife Cay
- 13 Nurse Cay
- 14 Bonavista Cay
- 15 Raccoon Cay
- 16 Pimlico Cay
- 17 Johnson Cay
- 18 Double Breasted Cay
- 19 Maycock Cay
- 20 Hog Cay
- 21 Great Ragged Island
- 22 Little Ragged Island
- 23 Margaret Cay

Plate 41

The solid line indicates the eastern margin of the Great Bahama Bank.

side faces the deep water of the Crooked Island Passage; the western side, the shoal waters of the Great Bahama Bank.

These cays probably composed a single island during the lower eustatic change of the oceanic level in the Pleistocene. They formed a continuous land mass with the present Long Island and Exuma chain. Higher oceanic level and much subsequent erosion has fragmented this area into a long series of cays with shallow water passes between them. Little Ragged Island, the southernmost of this chain of cays, is 70 miles from and nearly due north of Punta Lucrecia, Oriente, Cuba. A single isolated cay, Cay Santo Domingo, the southeasternmost part of the Great Bahama Bank, is only 30 miles north of Punta Lucrecia. To our knowledge, no one has ever collected on this small cay.

All of the cays and islets forming this chain have but scant vegetation. Some are bare rocks, while others support only a fringe of scrub growth. Nearly all of these cays are uninhabited at this time. Only Great Ragged Island is populated with any number of people and their number is given as 366 (1926) in "Maps of the Bahama Islands." This last is a small atlas of maps covering the Bahama Islands. Both Turks and Caicos Islands are omitted as they are politically under the administration of Jamaica. These maps were "Published by Authority," i.e., the British Government in London. An index and table of areas and population are included.

There is virtually little history concerning the collecting of mollusks on these islands. Alexander Agassiz collected specimens of *Cerion juliae*, which I described in 1936. These specimens were collected during Agassiz' reconnaissance of the Bahamas in 1893 while on the voyage of the "Wild Duck."

Dall (1905) in his list of the land mollusks from the Bahama Islands notes a *Cepolis (Plagioptycha) bryanti* Pfr. from Water Cay and *Cerion cinereum* Maynard from Ragged Island. The first was collected by Henry Bryant in 1866, during a collecting trip for birds in the Bahamas and was sent to Pfeiffer and subsequently described. The second, *Cerion cinereum*, was probably collected by A. Agassiz and was part of the material I described as *Cerion juliae*.

As stated before in this report, Paul Bartsch of the United States National Museum collected on most of these cays dur-

ing a collecting trip in 1930. Much later, in the summer of 1952, Mr. and Mrs. George Kline of Madison, New Jersey paid a visit to certain of these cays during an extended fishing and shell collecting trip. The land shells collected were sent to the Museum of Comparative Zoology.

CAY SAL BANK

The first naturalist to visit these islands was Count Pourtalès, student, friend, and later an associate of Louis Agassiz. He visited Cay Sal Bank during 1866 to 1868 while he was in the United States Coast Survey and in charge of dredging operations of the U.S. Survey Steamer "Bibb." He collected a few specimens of *Plagiogytha maynardi* Pilsbry.

The first and only species to be described as new from these islands is *Cerion niteloides* Dall. Specimens of this species were collected by C. C. Nutting in 1893 on Water Cay. These specimens were collected during a voyage of the "Emily E. Johnson" under the auspices of the State University of Iowa with C. C. Nutting in charge of the expedition. This expedition did considerable marine collecting in the Bahamas, off the Florida Keys and off Cuba. Some land shell collecting was attempted at many stations. All of these collections made by Nutting and his party were deposited in the United States National Museum in 1935.

The only complete survey of the Cay Sal Islands was made by Paul Bartsch in 1930. More about this expedition is mentioned earlier in this report.

Since 1930 several people have visited these islands, mainly Cay Sal. It was here that Leo Burry collected a large series of *Livona pica* Linné which he introduced at Marathon, Florida. Harvey Bullis, Chief Naturalist on the "Oregon" of the United States Fish and Wildlife Service, collected a few *Cerion* for us, as did Leo Burry on Cay Sal.

ACKNOWLEDGMENTS

I am most grateful to H. A. Rehder of the United States National Museum for the loan of a large collection from all of these islands made by Paul Bartsch in 1930. I am also indebted for the gift or loan of material to J. C. Greenway of this mu-

seum, to George and Mary Kline of Madison, New Jersey, and to B. C. Lewis and G. R. Proctor of the Jamaica Institute.

I am indebted to my colleagues, Merrill E. Champion and Ruth D. Turner for reading the manuscript and aid in many other ways.

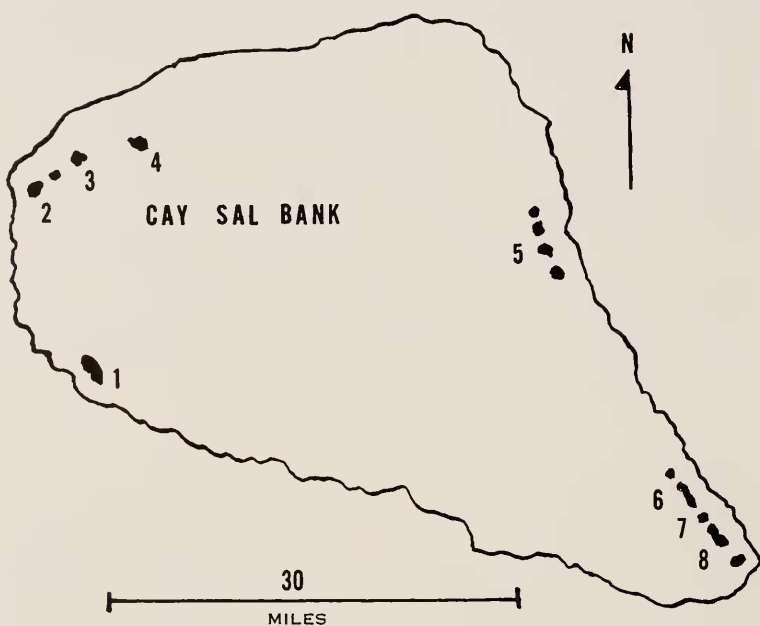


Plate 42

CAY SAL BANK

- | | | | |
|---|-----------|---|-------------------|
| 1 | Cay Sal | 5 | Damas Cay |
| 2 | Elbow Cay | 6 | Anguila Cay |
| 3 | Bay Cay | 7 | Little Cotton Cay |
| 4 | Water Cay | 8 | Cotton Cay |

Solid line indicates the margin of the bank.

Notes on the land and freshwater mollusks

The 42 species and subspecies of land and freshwater mollusks occurring on these islands may be grouped as follows:¹

	Bahamas and beyond	Widely distributed in Bahamas	Limited in distribution in Bahamas	Endemic	Total
Caicos Ids.	9	2	5	4+4 ²	24
Turks Ids.	7	0	7	4+2	20
Ragged Ids.	4	2	3	5	14
Cay Sal Bank	1	0	1	1	3

The figures given above are more or less proportionate for other islands in the Bahamas. The endemic elements are a little higher in ratio to land area but there are far more islands in these groups and thus more chance for endemic elements to evolve. In general, as has been stated before, in these studies on the land and freshwater mollusks of the Bahama Islands, the relationships of the mollusks are on the basis of island proximity and not necessarily on any former land connection in the geologic history of these islands.

*List of the species known from Turks, Caicos,
Ragged and Islands on the Cay Sal Bank*

HELICINIDAE

Alcudia (Analcudia) moussoniana Pfeiffer

Helicina moussoniana Pfeiffer 1866, Malakozoologische Blätt. 13: 89 (Turks Island, Bahamas).

Remarks. This species occurs also on Mariguana, Great and Little Inagua Islands.

Specimens examined. CAICOS ISLANDS: south coast, Kingston and Sugarloaf Cay, Providenciales; Pine Cay; Water Cay; Parrot Cay; Kew, North Caicos; south side of Salt Lagoon and Little Halfway Creek, Grand Caicos; West End, Jones Hill and

¹ Excluding the Ellobiidae.

² Four species are endemic to both Caicos and Turks Islands.

Cape Comete, East Caicos; South Caicos. **TURKS ISLANDS:** central Grand Turk; Cotton Cay.

***Lucidella (Poniella) tantilla* Pilsbry**

Helicina tantilla Pilsbry 1902, Nautilus **16:** 53 (Palm Beach, Florida).

Lucidella (Poniella) tantilla Pilsbry. Clench 1937, Proc. New England Zool. Club **16:** 77.

Remarks. This species is now known to have a wide distribution in the Bahama Islands as well as in Cuba and southern Florida. The records below are the first for the Caicos Islands.

Specimens examined. **CAICOS ISLANDS:** Southeast Point and Kingston, Providenciales; Water Cay; Stubbs Cay; Parrot Cay; Jones Hill, Cape Comete, East Caicos.

***Helicina rawsoni* Pfeiffer**

Helicina rawsoni Pfeiffer 1867, Malakozoologische Blätt. **14:** 165 (Inagua Island, Bahamas).

Remarks. A species of wide distribution in the Bahamas. It does not appear, however, to be at all abundant at any one station.

Specimens examined. **CAICOS ISLANDS:** Malcolm Bay, Providenciales; Pine Cay; Water Cay; Parrot Cay; near Bottle Creek and Kew, North Caicos; Grand Caicos. **RAGGED ISLANDS:** Bonavista Cay; Raccoon Cay; Hog Island; Great Ragged Island.

***Eutrochatella calida* Weinland**

Helicina calida Weinland 1862, Malakozoologische Blätt. **9:** 91 (Crooked Island, Bahamas).

Remarks. This species is very close to *E. candida* Pfeiffer, differing by being a little larger and by having numerous but rather faint, spiral, incised lines.

This species occurs also on Great Inagua and the Crooked Island Group.

Specimens examined. **CAICOS ISLANDS:** south coast, Blue Hill and Kingston, Providenciales; Salt Pond, Grand Caicos; Big Iguana Cay, Bells Cay, Jones Hill and West End, East Cai-

cos; Salt Pond and Cockburn Harbour, South Caicos. TURKS ISLANDS: Salt Cay.

***Eutrochatella candida* Pfeiffer**

Helicina candida Pfeiffer 1858, Malakozoologische Blätt, **5**: 145, pl. 2, figs. 13-16 (northern part of Turks Island).

Specimens examined. CAICOS ISLANDS: Sugarloaf Cay, Malcolm Bay and south coast, Providenciales; Little Halfway Creek, Grand Caicos; Cape Comete, East Caicos. TURKS ISLANDS: North Wells, Grand Turk; salt pan, Salt Cay; Cotton Cay.

***Eutrochatella greenwayi* Clench**

Eutrochatella greenwayi Clench 1933, Proc. New England Zool. Club **13**: 81, pl. 1, fig. 16 (Eleuthera Island, Bahamas).

Remarks. This species is also known from Long, Andros and Eleuthera Islands.

Specimens examined. RAGGED ISLANDS: Little Ragged Island.

POMATIASIDAE

***Chondropoma (Chondropoma) hjalmarsoni* Pfeiffer**

Chondropoma hjalmarsoni Pfeiffer 1858, Malakozoologische Blätt. **5**: 143, pl. 2, figs. 9-12 (northern part of Grand Cay [Grand Turk], Turks Islands).

Chondropoma (Chondropoma) hjalmarsoni salinum Bartsch 1946, Bull. United States Nat. Mus. no. 192, p. 212, pl. 35, fig. 2 (Salt Cay, Turks Islands).

Chondropoma (Chondropoma) hjalmarsoni gossypinum Bartsch 1946, Bull. United States Nat. Mus. no. 192, p. 212, pl. 35, fig. 1 (Cotton Cay, Turks Islands),

Chondropoma (Chondropoma) necopium Bartsch 1946, Bull. United States Nat. Mus. no. 192, p. 208, pl. 34, fig. 6 (Lightborn Creek, Grand Caicos, Caicos Islands).

Chondropoma (Chondropoma) necopium auspicatum Bartsch 1946, Bull. United States Nat. Mus. no. 192, p. 208, pl. 34, fig. 3 (Big Iguana Cay, Cape Comete. East Caicos, Caicos Islands).

Chondropoma (Chondropoma) graniferum Bartsch 1946, Bull. United States Nat. Mus. no. 192, p. 204, pl. 32, fig. 8 (southeast point of Providenciales, Caicos Islands).

Chondropoma (Chondropoma) graniferum burnetense Bartsch 1946, Bull. United States Nat. Mus. no. 192, p. 204, pl. 32, fig. 10 (west coast of West Caicos, Caicos Islands).

Chondropoma (Chondropoma) graniferum saxicolum Bartsch 1946, Bull. United States Nat. Mus. no. 192, p. 204, pl. 32, fig. 5 (Kingston, Providenciales, Caicos Islands).

Chondropoma (Chondropoma) graniferum malcolmense Bartsch 1946, Bull. United States Nat. Mus. no. 192, p. 205, pl. 32, fig. 7 (Malcolm Bay, northwest coast of Providenciales, Caicos Islands).

Specimens examined. CAICOS ISLANDS: west coast of West Caicos; Southeast Point, Kingston and Malcolm Bay, Providenciales; Lightborn Creek, Grand Caicos; Big Iguana Cay, Cape Comete, East Caicos; Six Hill Cay, South Caicos. TURKS ISLANDS: Grand Turk; Salt Cay; Cotton Cay.

Chondropoma (Chondropoma) pannosum Bartsch

Chondropoma (Chondropoma) pannosum Bartsch 1946, Bull. United States Nat. Mus. no. 192, p. 206, pl. 34, fig. 2 (Great Ragged Island, Bahamas).

Chondropoma (Chondropoma) pannosum panniculum Bartsch 1946, Bull. United States Nat. Mus. no. 192, p. 207, pl. 34, fig. 1 (Little Ragged Island, Bahamas).

Specimens examined. RAGGED ISLANDS: Great Ragged Island. Little Ragged Island.

Chondropoma (Chondrops) biforme Pfeiffer

Chondropoma biforme Pfeiffer 1858, Malakozoologische Blätt. 5: 143 (Turks Island).

Chondropoma (Chondrops) biforme cottonense Bartsch 1946, Bull. United States Nat. Mus. no. 192, p. 194, pl. 33, fig. 14 (Cotton Cay, between Grand Turk and Cay Sal, Turks Islands).

Chondropoma (Chondrops) biforme arenarium Bartsch 1946, Bull. United States Nat. Mus. no. 192, p. 194, pl. 33, fig. 13 (Sand Cay, Turk Island Group).

Chondropoma (Chondrops) biforme salarium Bartsch 1946, Bull. United States Nat. Mus. no. 192, p. 195, pl. 33, fig. 7 (Salt Cay, south of Grand Turk Island).

Remarks. This species occurs also on Great and Little Inagua Islands.

Specimens examined. TURKS ISLANDS: Central Grand Turk; Salt Cay; Sand Cay; Cotton Cay.

Chondropoma (Chondrops) biforme cometense Bartsch

Chondropoma (Chondrops) cometense Bartsch 1946, Bull. United States Nat. Mus. no. 192, p. 189, pl. 33, fig. 1 (Stubb Guano Cave, Cape Comete, East Caicos).

Chondropoma (Chondrops) biforme bellense Bartsch 1946, Bull. United States Nat. Mus. no. 192, p. 194, pl. 33, fig. 15 (Bell Cay, off Cape Comete, East Caicos).

Chondropoma (Chondrops) biforme gambelense Bartsch 1946, Bull. United States Nat. Mus. no. 192, p. 194, pl. 33, fig. 12 (Gambel's Cay, Grand Caicos).

Chondropoma (Chondrops) baconi Bartsch 1946, Bull. United States Nat. Mus. no. 192, p. 191, pl. 33, fig. 4 (west end of East Caicos).

Chondropoma (Chondrops) baconi rathbuni Bartsch 1946, Bull. United States Nat. Mus. no. 192, p. 191, pl. 33, fig. 9 (salt pond, west side of South Caicos).

Chondropoma (Chondrops) baconi caicosense Bartsch 1946, Bull. United States Nat. Mus. no. 192, p. 192, pl. 33, fig. 3 (Salt Lagoon, Lightborn Creek, Grand Caicos).

Specimens examined. CAICOS ISLANDS: Salt Lagoon, Lightborn Creek and Gambel's Cay, Grand Caicos; Bell Cay, Cape Comete, and west end, East Caicos; Salt Pond and Cockburn Harbour, South Caicos.

Chondropoma (Chondropomisca) saccharinetense *Bartsch*

Chondropoma (Chondropomisca) saccharinetense Bartsch 1946, Bull. United States Nat. Mus. no. 192, p. 202, pl. 32, fig. 3 (Sugarloaf Cay, Providenciales, Caicos Islands).

Chondropoma (Chondropomisca) providencialense Bartsch 1946, Bull. United States Nat. Mus. no. 192, p. 201, pl. 32, fig. 2 (southeast point of Providenciales, Caicos Islands).

Specimens examined. CAICOS ISLANDS: Sugarloaf Cay and southeast point of Providenciales.

Opisthosiphon (Opisthosiphon) reticulatus *Bartsch*

Opisthosiphon (Opisthosiphon) reticulatus Bartsch 1946, Bull. United States Nat. Mus. no. 192, p. 227, pl. 36, fig. 7 (Buena Vista Cay [Bonavista], Ragged Island Group).

Opisthosiphon (Opisthosiphon) reticulatus pannosus Bartsch 1946, Bull. United States Nat. Mus. no. 192, p. 227, pl. 36, fig. 5 (Great Ragged Island, Bahama Islands).

Opisthosiphon (Opisthosiphon) phoenicopterus Bartsch 1946, Bull. United States Nat. Mus. no. 192, p. 237, pl. 37, fig. 10 (Flamingo Cay [Ragged Islands] Bahama Islands).

Opisthosiphon (Opisthosiphon) phoenicopterus nutricius Bartsch 1946, Bull. United States Nat. Mus. no. 192, p. 237, pl. 37, fig. 13 (Nurse Cay, Ragged Islands, Bahamas).

Specimens examined. RAGGED ISLANDS: Flamingo Cay; Knife Cay; Nurse Cay, Bonavista Cay; Great Ragged Island.

ELLOBIIDAE

Melampus flavus *Gmelin*

Voluta flava Gmelin 1791, Systema Naturae, ed. 13, 1: 3436 (locality unknown).

Specimens examined. TURKS ISLANDS.

Tralia ovula *Bruguère*

Bulimus ovulus Bruguère 1789, Encyclopédie Méthodique 1: 139 (Guadeloupe [Lesser Antilles]).

Specimens examined. TURKS ISLANDS.

Detracia bullaoides *Montagu*

Voluta bullaoides Montagu 1808, Testacea Britannica, Supplement, p. 102, pl. 30, fig. 6 (locality unknown).

Specimens examined. EAST CAICOS. CAY SAL.

PLANORBIDAE

Drepanotrema cimex *Moricand*

Planorbis cimex Moricand 1839, Mem. Soc. Phys. Geneve 8: 143, figs. 8-9 (Bahia, Brasil).

Specimens examined. TURKS ISLANDS: Cotton Cay.

Tropicorbis albicans *Pfeiffer*

Planorbis albicans Pfeiffer 1839, Archiv für Naturgeschichte 5: 354 (Cuba).

Specimens examined. TURKS ISLANDS: Cotton Cay.

SUCCINEIDAE

Succinea barbadensis *Guilding*

Succinea barbadensis Guilding 1828, Zoological Journal 3: 532 (Barbados).

Remarks. A species of wide distribution in the West Indies.

Specimens examined. CAICOS ISLANDS: Salt Pond and Cockburn Town. TURKS ISLANDS: Central Grand Turk.

PUPILLIDAE

***Pupoides nitidulus* Pfeiffer**

Bulimus nitidulus Pfeiffer 1839, Archiv für Naturgeschichte 5: 352 (Cuba).

Specimens examined. CAICOS ISLANDS: Southeast Point, Kingston and Sugarloaf Cay, Providenciales; Stubbs Cay; Salt Lake, Grand Caicos; Jones Hill, Big Iguana Cay and Cape Comete, East Caicos; Salt Pond and Cockburn Town, South Caicos. TURKS ISLANDS: North Wells and Waterloo, Grand Turk; Salt Cay; Cotton Cay. RAGGED ISLANDS: Pimlico Cay; Raccoon Cay.

***Gastrocopta pellucida* Pfeiffer**

Pupa pellucida Pfeiffer 1841, Symbolae ad Historiam Heliceorum 1: 46 (Cuba).

Gastrocopta pellucida Pfeiffer. Pilsbry 1916, Man. of Conch. (2) 75, pl. 15, figs. 1-3, 5.

Remarks. This species is widely distributed throughout most of the Bahamas as well as elsewhere in the West Indies.

Specimens examined. CAICOS ISLANDS: Malcolm Bay, Southeast Point and Sugarloaf Cay, Providenciales; Water Cay; Parrot Cay; Little Halfway Creek, Grand Caicos; Big Iguana Cay and Cape Comete, East Caicos; Salt Pond, South Caicos; Ambergris Cay. TURKS ISLANDS: Grand Turk; Salt Cay; Cotton Cay. RAGGED ISLANDS: Great Ragged Island.

***Gastrocopta rupicola marginalba* Pfeiffer**

Pupa marginalba Pfeiffer 1840, Archiv für Naturgeschichte 1: 253 (Cuba).

Gastrocopta rupicola marginalba Pfeiffer. Pilsbry 1916, Man. of Conch. (2) 24: 60, pl. 11, figs. 10-13; pl. 10, figs. 6, 8, 9.

Remarks. I believe this to be the first time this species has been recorded from the Bahama Islands. It has been recorded for Cuba, Jamaica and Bermuda.

Specimens examined. CAICOS ISLANDS: Water Cay; Big Iguana Cay and Cape Comete, East Caicos; Salt Pond, South Caicos. RAGGED ISLANDS: Great Ragged Island.

STROBILOPSIDAE

***Strobilops hubbardi vendryesiana* Gloyne**

Helix vendryesiana Gloyne 1871, Jour. de Conchyliologie **19**: 333 (Bellevue, St. Andrew, Jamaica).

Strobilops hubbardi vendryesiana Gloyne. Pilsbry 1927, Man. of Conch. (2) **28**: 48, pl. 7, figs. 4-12; pl. 8, figs. 1-9.

Remarks. A rare species in the Bahamas where it is known also from Great Inagua. It occurs also in Cuba, Bermuda, Jamaica, Florida and Mexico.

Specimens examined. CAICOS ISLANDS: Rocky Hill, Grand Caicos; Cape Comete, East Caicos. TURKS ISLANDS: Cotton Cay.

OLEACINIDAE

***Varicella gracillima floridana* Pilsbry**

Varicella gracillima floridana Pilsbry 1907, Man. of Conch. (2) **19**: 57 (Key West, Florida).

Varicella gracillima bahamensis Bartsch 1913, Proc. United States Nat. Mus. **46**: 109, pl. 3, fig. 13 (Mangrove Cay, Andros Island, Bahamas).

Remarks. A species of wide distribution in the Bahamas and southern Florida. It is closely related to *V. gracillima* Pfeiffer of central and western Cuba.

It is interesting to note the absence of *Oleacina solidula* Pfeiffer from all of the islands considered in this report. It is widely distributed elsewhere in the Bahamas.

Specimens examined. CAICOS ISLANDS: Kingston, Providenciales; Water Cay, Salt Lake and Salt Lagoon, Grand Caicos; Cape Comete, East Caicos; Salt Pond, South Caicos. TURKS ISLANDS: Salt Cay; Cotton Cay.

POLYGYRIDAE

Two species in this family occur in the Bahamas and *Polygyra lingulata* Deshayes is to be found only in the Caicos Islands. Complete synonymies of both species are given as their histories have been somewhat complicated.

Polygyra plana Dunker

Helix microdonta Deshayes 1839 [in] Férussac, Histoire Naturelle des Mollusques 1: 6, pl. 72, fig. 13 (? Central America; ? Cuba); non *H. microdonta* Deshayes 1832.

Helix plana Dunker 1843, Abbildungen Neuer Conchylien 1: 51, Helix, pl. 3, fig. 11 (? West Indies).

Helix delitescens 'Shuttleworth' Bland 1860, Ann. Lyceum Nat. Hist. New York 7: 134; 140 (Bermuda).

Helix cheilodon Say 1860 [in] Bland, Ann. Lyceum Nat. Hist. New York 7: 141 (Bermuda).

Helix ringens W. G. Lane 1891, The Spiral Snails of Bermuda, Hamilton, Bermuda, p. 2 [nomen nudum].¹

Polygyra plana bahamensis Vanatta 1919, Nautilus 33: 72 (Current Settlement, Bahamas).

Types. The types of *plana* Dunker are in the Königl. Zoologisches Museum, Berlin. The holotype of *Polygyra plana bahamensis* Vanatta is in the Acad. Nat. Sci. Philadelphia and paratypes are in the Museum of Comparative Zoology. The type locality is Bermuda.

Remarks. This species is closely related to *Polygyra linguata* Desh. of Cuba and the Caicos Islands. It differs by having finer axial costae, a much heavier parietal tooth, and in having the spire more depressed.

It prefers damp situations and is usually to be found under plant debris and wood. In favorable places it can be exceedingly abundant. It occurs in Bermuda as well as the central and northern islands of the Bahama archipelago.

Specimens examined. Grand Bahama; Great Abaco; Mores Island; Bimini Islands; Andros; New Providence; Eleuthera; Cat Island and Crooked Island (all MCZ).

Polygyra linguata Deshayes

Helix (Polygyra) insularum Beck 1837, Index Molluscorum, p. 23 (Havana) [nomen nudum].

Helix paludosa Pfeiffer 1839, Archiv für Naturgeschichte 5: 350 (Cuba); non DaCosta 1778.

¹Vanatta (Proc. Acad. Nat. Sci. Philadelphia 1911, p. 664) lists the name of *H. ringens* as a synonym of *P. plana*. There is no description and the reference to two plates and a map are evidently to a single copy in the library at Hamilton, Bermuda, and are hand drawn.

Helix lingulata Deshayes [in] Férussac 1839, Histoire Naturelle des Mollusques 1: 6, pl. 69D, fig. 1 (Havana, Cuba).

Helix bardenflehtii 'Beck' Villa 1841, Dispositio Systematica Conchyliarum, Mediolani, p. 15 (Cuba) [nomen nudum].

Helix ramonis d'Orbigny 1841 [in] de la Sagra, Histoire de L'Ile de Cuba 1: 142 (Cuba).

Helix ramondi d'Orbigny 1842 [in] de la Sagra, Histoire de L'Ile de Cuba, atlas, pl. 8, figs. 1-4.

Helix bardenflechthi 'Villa' Arango 1879, Contribucion a la Fauna Malacologica Cubana, Habana, p. 79 [error for *bardenflehtii* Villa].

Types. The present location of the types of both *paludosa* and *lingulata* is unknown to me. The type locality is Habana, Cuba.

Remarks. As stated under *P. plana* Dunker, these two species are closely related. A careful study of the Caicos Island specimens indicates that they are *lingulata* and not *plana*. It would appear that *plana* is an old species in the Bahamas, perhaps dating back to the early Pleistocene, while *lingulata* is a more recent arrival from Cuba, possibly by commerce.

In addition to our Bahama records we list all of the Cuban localities from which we have seen specimens.

Specimens examined. CAICOS ISLANDS: Kew; between Bottle Creek and Whitby, North Caicos (both MCZ). CUBA: Catalina de Guane; Cabañas; Guanajay; Artemisa; Rangel; Sierra Anafe; Dos Hermanos, Viñales, all Pinar del Río Prov. (all MCZ); San Antonio de los Baños; Habana; Somorrostro; Jamaica; Cangrejera; Managua; all Habana Prov. (all MCZ); Matanzas; Cardenas; both Matanzas Prov. (both MCZ); Soledad, Cienfuegos; Caibarién; Ceiba de Ojo de Agua; all Las Villas Prov. (all MCZ); Laguna de Leche, San Juan Canal; Isla Turiguano; both Camagüey (both MCZ); Nueva Gerona; Bibijagua; both Isla de Pinos (both MCZ).

SAGDIDAE

Hojeda inaguensis Weinland

Helix inaguensis Weinland 1880, Jahr. Deut. Malak. Gesell. 7: 369, pl. 12, fig. 22 (Little Inagua).

Specimens examined. CAICOS ISLANDS: Sugarloaf Cay and Kingston, Providenciales; Parrot Cay; Little Halfway Creek

and Salt Lake, Grand Caicos; Cape Comete, East Caicos; Salt Pond, South Caicos. TURKS ISLANDS: Cotton Cay. RAGGED ISLANDS: Bonavista Cay; Pimlico Cay, Raccoon Cay; Great Ragged Island; Little Ragged Island.

***Lacteoluna selenina* Gould**

Helix selenina Gould 1848, Proc. Boston Soc. Nat. Hist. **3**: 38 (Georgia and Florida).

Remarks. A species of wide distribution in the West Indies, Georgia and Florida.

Specimens examined. CAICOS ISLANDS. Kingston, Providenciales; Water Cay; Parrot Cay; Salt Lake, Grand Caicos; Cape Comete, East Caicos. RAGGED ISLANDS: Pimlico Cay, Raccoon Cay.

UROCOPTIDAE

***Microceramus swifti* Bland**

Microceramus swifti Bland 1875, Ann. Lyceum Nat. Hist. New York **6**: 83 (Turks Island, also Inagua, Bahamas).

Specimens examined. CAICOS ISLANDS: Kingston, Sugarloaf Cay and Malcolm Bay, all Providenciales; between Bottle Creek and Whitby, North Caicos; Rocky Hill, Salt Pond, both Grand Caicos; Big Iguana Cay, Cape Comete, Jones Hill, all East Caicos; Salt Pond, South Caicos. TURKS ISLANDS: North Wells, Grand Turk; Salt Cay; Cotton Cay.

***Microceramus russelli* Clench**

Microceramus russelli Clench 1937, Proc. New England Zool. Club **16**: 63, pl. 3, figs. 4-5 (Blue Hole Hill, Orange Creek, Cat Island, Bahamas).

Specimens examined. RAGGED ISLANDS: Bonavista Cay; Great Ragged Island; Little Ragged Island.

***Gongylostoma bahamensis* Pfeiffer**

Cylindrella bahamensis Pfeiffer 1861, Malakozoologische Blätt. **7**: 214, pl. 2, figs. 8-11 (Nassau, Bahamas).

Specimens examined. CAICOS ISLANDS: Malcolm Bay and

Kingston, Providenciales; Kew, North Caicos; Grand Caicos; Jones Hill, Cape Comete, East Caicos.

CERIONIDAE

Cerion (Maynardia) periculosum *Clench*

Plate 43, fig. 2

Cerion (Strophioops) periculosum Clench 1934, Proc. Boston Soc. Nat. Hist. **40**: 215, pl. 2, fig. B (South Cay, Mira Por Vos Group, Bahamas).

Remarks. This may well be a recent introduction into the Ragged Islands. It is only known from four small cays in the Jamaica Cay group, which is about midway in the Ragged Islands chain of islands. This species is known elsewhere from South Cay, Mira Por Vos Cays, Crooked Island Group. It varies from smooth to costate.

Specimens examined. RAGGED ISLANDS: Cays "D," "E," "H" and "I," Jamaica Cays.¹

Cerion (Maynardia) juliae *Clench*

Plate 43, fig. 3

Cerion (Strophioops) juliae Clench 1936, Nautilus **48**: 112, pl. 8, fig. 6 (Great Ragged Cay, Ragged Island Group, Bahamas).

Remarks. *Cerion juliae* is distributed throughout the Ragged Islands.

Specimens examined. RAGGED ISLANDS: Little Water Cay; small cay just north of Flamingo Cay; Jamaica Cay; cays "C," "D," "E" and "G," Jamaica Cays; Seal Cay; South Seal Cay; Frog Cay; third cay northwest of Frog Cay; cay due west of Frog Cay; Knife Cay; Loggerhead Cay; Doublebreasted Cay; Margaret Cay; Salt Pond and Duncan Town, Great Ragged Island; Western Beach, Little Ragged Island.

¹Bartsch had given letter symbols to several small cays in the Jamaica Group. Unfortunately his map associated with his account of this area has been lost or at least mislaid.

Cerion (Maynardia) blandi Pilsbry and Vanatta

Cerion blandi Pils. and Van. 1896, Proc. Acad. Nat. Sci. Philadelphia 48: 334, pl. 11, fig. 7 (Turks Island, Bahamas).

Specimens examined. TURKS ISLANDS: southeast side of salt pans; west side of town; South Point; all Grand Turk; Salt Cay, near lighthouse.

Cerion (Maynardia) klineae, new species

Plate 43, fig. 1

Description. Shell reaching 40 mm. in length, rather solid in structure, sculptured and umbilicated. Color a grayish white with occasional colonies showing a brownish mottling. Whorls 11 to 12½, nearly flat sided to slightly convex, the first 8 or 9 whorls forming the tapering apex. Suture well defined. Aperture subquadrate and colored a dark brown within. Lip simple and built forward to form a well defined parietal ridge. Parietal tooth large and white. Columellar tooth small and extending back for about a whorl. Umbilicus small and occasionally closed. Shell rarely smooth, generally sculptured with coarse and usually widely spaced ribs.

length	width	
40 mm.	15 mm.	Holotype
38	15.5	Paratype
35	14.5	Paratype
31.5	16.5	Paratype

Types. Holotype is in the Museum of Comparative Zoology, no. 189209, from Bonavista Cay, Ragged Islands, Bahamas, collected by George and Mary Kline on July 7, 1952. Paratypes from the same locality in the Museum of Comparative Zoology no. 189210, the Academy of Natural Sciences, Philadelphia, and the United States National Museum.

Remarks. The species is close in its relationship to *C. marmorosum* Maynard and Clapp from Well Cay, about 6 miles N.W. of Great Exuma Island. It differs by being more coarsely sculptured, having the parietal tooth white in color and not brownish as it is in *marmorosum*, and by being on the average a much larger shell.

In distribution, *C. klineae* is limited to the southern Ragged Islands from Nurse Cay south to Great Ragged Island.

This species is named for Mrs. George F. Kline of Madison, New Jersey.

Specimens examined. RAGGED ISLANDS: south and north ends of Nurse Cay; Bonavista Cay; 1st, 2nd and 3rd cays south of Bonavista Cay; Raccoon Cay; Hog Cay; Salt Cay, Great Ragged Island.

Cerion (Strophioops) regina Pilsbry and Vanatta.

Cerion (Maynardia) regina Pils. and Van. 1895, Proc. Acad. Nat. Sci. Philadelphia **47**: 208; *ibid.* 1896, **48**: 330, pl. 11, figs. 23-24 (Turks Island, Bahamas).

Cerion regina swiftii Pils. and Van. 1895, Proc. Acad. Nat. Sci. Philadelphia **47**: 208 (Turks Island [Bahamas]).

Cerion regina eucosmium Pils. and Van. 1895, Proc. Acad. Nat. Sci. Philadelphia **47**: 208 (no locality given [Turks Island, Bahamas]).

Cerion regina comes Pils. and Van. 1895, Proc. Acad. Nat. Sci. Philadelphia **47**: 208 (Turks Island [Bahamas]).

Cerion regina percostatum Pils. and Van. 1895, Proc. Acad. Nat. Sci. Philadelphia **47**: 208 (Turks Island [Bahamas]).

Cerion brevispira Pils. and Van. 1895, Proc. Acad. Nat. Sci. Philadelphia **47**: 209 (Turks Island [Bahamas]).

Cerion incanoides Pils. and Van. 1895, Proc. Acad. Nat. Sci. Philadelphia **47**: 209 (Turks Island [Bahamas]).

Remarks. Most, if not all, of the synonyms given above were based upon selected specimens from this small island. Unit populations may show a dominance of one or more characters, but these characters grade as well into other populations with different degrees of intensity.

Specimens examined. TURKS ISLANDS: Burial Ground; Waterloo; North Wells; North Creek; Bailey's Pond; south of lighthouse; all Grand Turk. Cotton Cay.

Cerion (Strophioops) caicosense Clench

Cerion (Strophioops) caicosense Clench 1937, Proc. New England Zool. Club **16**: 23, pl. 1, fig. 4 (Cockburn Town, South Caicos Island, Caicos Islands, Bahamas).

Specimens examined. CAICOS ISLANDS: Kingston and Malcolm Bay, Providenciales; Stubbs Cay, North Caicos; Little

Halfway Creek, Salt Lake and Gambels Bay, Grand Caicos; Salt Pond, Cape Comete and Bell Cay, East Caicos; Eastport and Cockburn Town, South Caicos.

Cerion (Strophlops) utowana abbotti, new subspecies
Plate 43, fig. 4

Description. Shell reaching 32 mm. in length, solid in structure, umbilicated, smooth to moderately sculptured. Color a grayish white and mottled with patches of light brown. Whorls 10 to $10\frac{1}{2}$, flat sided to slightly convex, the first seven whorls forming the tapering apex. Suture well defined. Aperture sub-circular. Lip greatly thickened, broadly reflected and recurved. There is no parietal ridge, though the parietal area is thinly glazed. Parietal tooth centered and extending backwards for $\frac{1}{2}$ whorl. Columellar tooth formed well within the aperture, low and extending backward for $\frac{1}{2}$ whorl. Umbilicus rather small but deep. Sculpture consisting of fine growth lines with many specimens showing well formed axial ribs, particularly on the last whorl.

length	width	
32 mm.	14 mm.	Holotype
31.5	14.5	Paratype
29.5	15	Paratype
27.5	13.5	Paratype

Types. The holotype is in the United States National Museum, no. 610285, from Long Island, South Caicos, Caicos Islands, Bahamas. P. Bartsch collector, July 29, 1930. Paratypes from the same locality are in the United States National Museum, no. 392752 and in the Museum of Comparative Zoology, nos. 189854, 219190 and 219191.

Remarks. This subspecies is close in its relationship to the typical form, *C. utowana* Clench from East Plana Cay. *C. u. abbotti* is much smaller and has the last three whorls straight, while in *C. utowana* all whorls taper toward the apex. The presence of axial ribs in *abbotti* is a character possibly obtained through crossing with *C. caicosense* Clench, typical *utowana* being smooth, other than the fine axial growth lines. The series of specimens obtained from Dove Cay were dead and appeared to be very old specimens

Plate 43

Fig. 1. *Cerion klineae* Clench. Bonavista Cay, Ragged Islands, Bahamas. Holotype MCZ 189209 (about 1.9 \times).

Fig. 2. *Cerion periculosum* Clench. South Cay, Mira Por Vos Group, Crooked Islands, Bahamas. Holotype MCZ 103019 (about 1.9 \times).

Fig. 3. *Cerion juliae* Clench. Great Ragged Island, Ragged Islands, Bahamas. Holotype MCZ 10369 (about 1.9 \times).

Fig. 4. *Cerion utowana abbotti* Clench. Long Cay, South Caicos. Caicos Islands, Bahamas. Holotype USNM 610285 (2.5 \times).

Fig. 5. *Cerion lewisi* Clench. Pine Cay, Caicos Islands, Bahamas. Holotype USNM 610286 (2.5 \times).

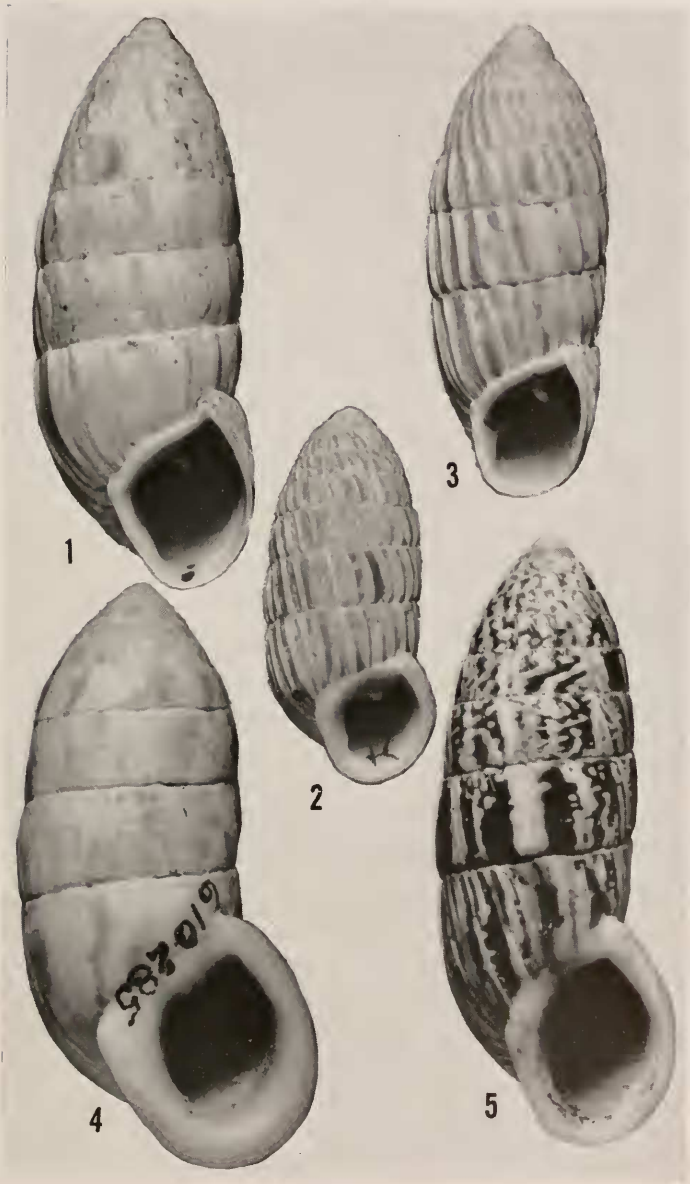


Plate 43

This species is named for R. T. Abbott of the Academy of Natural Sciences, Philadelphia.

Specimens examined. CAICOS ISLANDS: Dove Cay, East Caicos (dead); Long Cay, South Caicos. TURKS ISLANDS: Long Cay north of beacon; south end of Sand Cay.

***Cerion (Maynardia) niteloides* Dall**

Cerion (Maynardia) niteloides Dall 1896, Bull. Lab. Nat. Hist., State Univ. of Iowa 4: 15, pl. 1, fig. 2 (Water Cay, Cay Sal Bank, Bahamas).

Remarks. This is a variable species. Many of the populations on the several islands composing the Cay Sal Group look quite different from one another. Other populations are variable within themselves and show all of the characters held by these others.

Typical *niteloides* from Water Cay, the type locality, are nearly smooth and mottled with brown. A colony from Elbow Cay only a few miles away is very strongly costate. All colonies of this species from Cay Sal are strongly costate. Colonies from Anguila Cay are all large and vary from nearly smooth to costate and from white to brown in coloration.

Specimens examined. CAY SAL BANK: Elbow Cay; Bay Cay; Water Cay; Middle Damas Cay; Anguila Cay; Little Cotton Cay; Cotton Cay.

***Cerion (Multostrophia) microdon* Pils. and Van.**

Cerion microdon Pilsbry and Vanatta 1896, Proc. Acad. Nat. Sci. Philadelphia 48: 328, pl. 11, fig. 5 (Cuba).

Remarks. It appears that this Cuban species had become established on Cotton Cay, Cay Sal Bank and is now probably extinct. Bartsch mentions in his journal, "Here on cleared ground we found millions of a very small brown *Cerion*. These were all dead and that in spite of the fact that the ground had not been burned over."

I believe that this also holds true for the same species at Gibara, Cuba, the type locality of *C. microdon*. In localized areas this species occurs in considerable numbers but all are dead.

Specimens examined. CAY SAL BANK: Cotton Cay, middle east side.

***Cerion (Multostrophia) lewisi*, new species**

Plate 43, fig. 5

Description. Shell cylindrical, rather elongate, rather light in structure, smooth to finely ribbed and rimately perforate. Color a shining reddish brown and irregularly marbled with white. Whorls $10\frac{1}{2}$ to 11, slightly convex, the first 7 whorls forming the tapering apex. Suture well defined. Aperture ovate to subcircular. Lip slightly thickened, narrowly reflected and recurved. Parietal ridge moderately to well developed. Parietal tooth centered and extending backwards for $\frac{1}{2}$ whorl. Columella tooth formed well within the aperture and extending backward for $\frac{1}{2}$ whorl. Umbilicus small. Sculpture consisting of fine, irregular, axial ribs.

length	width	
32 mm.	12.4 mm.	Holotype
32	12.5	Paratype
30.5	11	Paratype
29.5	11	Paratype

Types. The holotype is in the United States National Museum, no. 610286, from Pine Cay, Caicos Islands, Bahama Islands. Paratypes from the same locality are in the Museum of Comparative Zoology, no. 221564, Paul Bartsch collector, July 24, 1930.

Remarks. *C. lewisi* is not closely related to any other species of *Cerion* in the Turks and Caicos Islands. It appears to be nearest to *C. lepidum* Clench and Aguayo of Punta de Mulas, Banes, Cuba, the same species which may be ancestral to the *C. rubicundum* Menke complex on Great Inagua. It is to be noted that this species is limited to the northwestern cays of the Caicos Islands.

It is quite possible that all species in the subgenus *Multostrophia* are derivatives of *C. lepidum* from Cuba. In general, the species in this subgenus are rather light in structure, most are finely ribbed or smooth, and in the Bahamas occur on the western sides of the large islands or the western cays of the small island groups.

Specimens examined. CAICOS ISLANDS: Pine Cay; Parrot Cay; Water Cay; Fort George Cay; Burnets Bay, West Caicos; Southeast Point, Providenciales; Sugarloaf Hill, Providenciales (all USNM).

FRUTICICOLIDAE

Hemitrochus gallopavonis Pfeiffer

Helix gallopavonis 'Valenciennes' Pfeiffer 1842, Symbolae ad Historiam 2: 28 (St. Croix [Turks Island, Bahamas]).

Helix constantior Weinland 1880, Jahrbucher der Deut. Malac. Gesell. 7: 371, pl. 12, fig. 19 (Inagua, Rum Cay, Turks Island).

Helix gallopavonis major Weinland 1880, Jahrbucher der Deut. Malac. Gesell. 7: 373 (Turks Island).

Helix gallopavonis elatior Weinland 1880, Jahrbucher der Deut. Malac. Gesell. 7: 374 (Turks Island).

Helix (Hemitrochus) calacaloides Pilsbry 1889, Man. of Conch. (2) 5: 28, pl. 31, figs. 24-26 (Ambergris Cay, Turks Island Group).

Remarks. I am convinced that all of the above names refer to but a single species. All of the numerous polychromatic species of land snails have had their share of synonyms, such as species in the genera *Liguus*, *Achatinella*, *Papuina* and many others. These color differences are far more apparent than real. Many colors are concerned with unit populations while others are individual variations within a single population.

All species in Bahama *Hemitrochus* are polychromatic and vary as well in shape and size. These factors are, of course, responsible for the many names occurring in this genus.

Specimens examined. CAICOS ISLANDS: west coast, West Caicos; Kingston, Southeast Point, Sapodilla Bay, all Providenciales; Pine Cay; Water Cay; Parrot Cay; between Bottle Creek and Whitby, Kew, both North Caicos; Salt Lake, Gambels Bay, Little Halfway Creek, all Grand Caicos; Cape Comete, Bill Cay, both East Caicos; Salt Pond, Cockburn Harbour, both South Caicos; Ambergris Cay. TURKS ISLANDS: North Wells, Waterloo, both Grand Turk; Salt Cay. RAGGED ISLANDS: Jamaica Cay; Nurse Cay; Bonavista Cay; Raccoon Cay; Margaret Cay; Johnstone Cay; Hog Cay; Great Ragged Island; Little Ragged Island.

***Plagioptycha bahamensis* Pfeiffer**

Helix bahamensis Pfeiffer 1845, Proc. Zoological Soc. London **13**: 66 (Bahamas).

Helix (Plagioptycha) holostoma Pilsbry 1889, Man. of Conch. (2) **5**: 18, pl. 19, figs. 34-35 (Turks Island, Bahamas).

Remarks. This species occurs only in the Caicos and Turks Island Groups. Published records of *Cepolis (Plagioptycha) disculus* Deshayes by Pfeiffer, Bland and Dall were probably based upon young specimens of *P. bahamensis* Pfr.

Specimens examined. CAICOS ISLANDS: Burnets Bay, West Caicos; Kingston and Malcolm Bay, Providenciales; Pine Cay; Water Cay; Kew and near Whitby, North Caicos; Gambels Bay, Salt Lagoon and Lightborn Creek, Grand Caicos; Cape Comete, East Caicos; Cockburn Town, South Caicos. TURKS ISLANDS: North Wells, Grand Turk.

***Plagioptycha sargenti* Bland**

Helix sargenti Bland 1875, Ann. Lyceum of Nat. Hist. New York **11**: 79 (Little Inagua, Bahama Islands).

Remarks. Mr. George R. Proctor collected a small series of dead shells of this species at Sapodilla Bay, Providenciales Island, Caicos Group. This is the only record other than those from the type locality, Little Inagua, for this species in the Bahama Islands. The present series of shells is very old and bleached and it is possible that this species is now extinct on Providenciales.

***Plagioptycha maynardi* Pilsbry**

Helix (Plagioptycha) maynardi Pilsbry 1891, Nautilus **5**: 83 (Bahamas).

Helix (Hemitrochus) maynardi Pilsbry 1893, Man. of Conch. (2) **8**: 241.

Specimens examined. CAY SAL BANK: Cotton Cay; Little Cotton Cay (USNM); Cay Sal Islands (MCZ, collected by Count Pourtalès).

***Plagioptycha salvatoris* Pfeiffer**

Helix salvatoris Pfeiffer 1867, Malakozoologische Blätt. **14**: 127 (Bight of San Salvador [Cat Island] Bahamas).

Remarks. A rare species in the Ragged Island Group. It occurs elsewhere in the Bahamas on Long, Eleuthera, Cat and Great Exuma Islands.

Specimens examined. RAGGED ISLANDS: south end of Raccoon Cay; Raccoon Cay opposite Pimlico Cay; Pimlico Cay.

***Plagioptycha bryanti* Pfeiffer**

Helix bryani Pfeiffer 1862, Malakozoologische Blätt. **9**: 204 (Water Key, Ragged Island [s] Bahama Islands); Pfeiffer 1863, Novitates Conchologicae **2**: 215, pl. 57, figs. 4-6 [error for *bryanti*].

Helix bryanti Pfeiffer 1868, Mono. Heliceorum Viventium **5**: 371.

Remarks. This species is closely related to *P. maynardi* Pilsbry from Andros Island and from the Cay Sal Islands. It was collected originally by Henry Bryant in 1866.

Specimens examined. RAGGED ISLANDS: Cay "L" Jamaica Cays.

REFERENCES

- Agassiz, A. 1880. Louis François de Pourtalès. American Jour. Science (3) **20**: 253-255.
- Bartsch, P. 1931. Further Explorations for Mollusks in the West Indies. Explorations and Field Work of the Smithsonian Institution in 1930, pp. 91-102, Washington, D.C.
- Bartsch, P. 1946. The Operculate Land Mollusks of the Family Annulariidae of the Island of Hispaniola and the Bahama Archipelago. Bull. United States National Museum **192**: 1-264, pls. 1-38.
- Brown, J. J. 1886. Notes on the Mollusca of the Bahamas. The Conchologists Exchange [Nautilus] **1**: 12-13.

- Clench, W. J. 1937. Shells of Mariguana Island, with a Review of the Bahama Helicinidae and Descriptions of New Bahama Species. *Proc. New England Zool. Club* **16**: 57-79, pl. 3.
- Clench, W. J. 1938. Origin of the Land and Freshwater Mollusk Fauna of the Bahamas, with a List of the Species Occurring on Cat and Little San Salvador Islands. *Bull. Museum of Comparative Zoology* **80**: 481-541, pls. 1-3.
- Clench, W. J. 1952. Land and Freshwater Mollusks of Eleuthera Island, Bahama Islands. *Revista de la Sociedad Malacologica "Carlos de la Torre"* **8**: 97-116, 1 map, 2 plates.
- Clench, W. J. 1959. Land and Freshwater Mollusks of Great and Little Inagua, Bahama Islands. *Bull. Mus. Comp. Zool.* **121**: 29-54, 1 map, 1 plate.
- Dall, W. H. Cruise of the Steam Yacht "Wild Duck" in the Bahamas, January to April, 1893, in Charge of Alexander Agassiz. *Bull. Museum of Comparative Zoology* **25**: 113-124, pl. 1.
- Dall, W. H. 1905. Fossils of the Bahama Islands, with a list of the Non-Marine Mollusca. [in] *The Bahama Islands*. The Geographic Soc. of Baltimore, pp. 23-47.
- Hjalmarson, J. and L. Pfeiffer. 1858. Beitrage zur Fauna von Westindien. *Malakozoologische Blätt.* **5**: 135-155, 2 plates.
- Nutting, C. C. 1895. Narrative and Preliminary Report of the Bahama Expedition. *Natural History Bull., State Univ. of Iowa* **3**: 1-251.
- Bahama Government. 1926. Maps of the Bahama Islands with Statistics and Index. 20 pages of maps, index of place names with areas and population data.